The Program Managers' Guide to the Integrated Baseline Review Process

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Foreword

In accordance with Department of Defense (DoD) acquisition policy, Program Managers (PMs) must conduct Integrated Baseline Reviews (IBRs) on contracts with Earned Value Management (EVM) requirements. IBRs are intended to provide a mutual understanding of risks inherent in contractors' performance plans and underlying management control systems. Properly executed, IBRs are an essential element of a PM's risk management approach. However, for some time there has been concern about IBRs meeting their stated goal. In response to this concern, a team reviewed the IBR Process to assess IBR conformance to DoD policy.

The team found that most IBRs generally conform to DoD policy. However, the team found inconsistent policy interpretation, which resulted in the development of individual Service/Agency IBR guidebooks, differing perceptions of purpose and value, and inconsistent IBR execution. The team also found that the degree of focus on operational management processes broadly ranged from high to low during IBRs.

As a consequence, *The Program Managers' Guide to the Integrated Baseline Review Process* was developed to improve the consistency of the overall IBR Process. This guide identifies the purpose of the IBR Process and conveys the need to make it a continuous process. This guide also integrates the IBR with risk management, within the framework of the IBR Process.

This guide is the principal IBR reference and should be used to implement an integrated baseline discipline on an acquisition program. PMs are strongly encouraged to use this guide during IBR training, when preparing for an IBR, and then again during the actual execution and conduct of the IBR.

Executive Summary

This guide clearly defines the purpose, goals, and objectives of an IBR. It also describes attributes of an effective IBR and discusses a baseline review process that will lead to a better understanding of program risks. It provides a common definition and framework for the IBR Process. This process harmonizes, and to the extent possible, unifies the management objectives for all PMs. The IBR Process enables managers to effectively utilize the project Performance Measurement Baseline (PMB) to assess performance, and to better understand inherent risks. The IBR Process should continue throughout the life of a project.

Benefits

The IBR Process benefits PMs in the following ways:

- Lays a solid foundation for mutual understanding of project risks;
- Provides an invaluable opportunity to compare PMs' expectations, and to address differences before problems arise;
- Provides project management teams with a thorough understanding of the project plan and its risks, allowing early intervention and the application of resources to address project challenges; and
- Increases confidence in the project PMB, which provides a powerful, proactive, program management capability to obtain timely and reliable cost and schedule projections.

Additional, continuing benefits to the PMs, once a PMB has been established and the IBR Process has been implemented, include the following:

- Management insight. Enables the principles of management by exception and improves problem traceability rather than require continuous oversight of all tasks.

- Early warning. Indicates potential problems early.

- Earned value management. Enables management to quantify the impact of known problems, to measure work accomplished, and to obtain realistic estimates at completion.

Key Elements

The key elements in the IBR Process are the following:

- The IBR Process establishes and maintains a mutual understanding of the PMB and mitigates program risk. (page 4)

- Preparation for the IBR should begin as soon as practical. (page 8)

- Before executing the IBR, ensure the PMB reflects the entire scope of work, documented at the appropriate level of detail. (page 9)

- Preparation includes planning that identifies key responsibilities, required technical expertise, training, review dates, review scope, risk evaluation criteria, documentation needs, disposition of findings, and procedures for risk identification, documentation, and incorporation into project risk management planning. (page 9)

- The intent of the IBR is to provide the PMs with a mutual understanding of the project PMB and to attain agreement on a plan of action to handle the identified risks. **(**page 13)

- Anything that does not support the intent of the IBR should be moved outside the review. (page 14)

- Technical, Schedule, Cost, Resource, and Management Processes risks identified during the IBR should be reviewed; action risks should be incorporated into the project risk management planning. (page 14)

- Management processes provide the PMs with a continuous source of project information that enables mutual understanding and the reduction or elimination of the need for future IBRs. (page 16)

Introduction

IBR Process Overview

The IBR Process consists of the following jointly executed project management activities:

- PMB Assessment,
- IBR Preparation,
- IBR Execution, and
- Management Processes.

Deserving particular notice, the IBR is not the end objective. It is one element of an iterative, continuing process that provides a structure for program management to openly discuss the project's plan, strengths, and risks.

The IBR Process establishes and maintains a mutual understanding of the PMB and mitigates program risk.

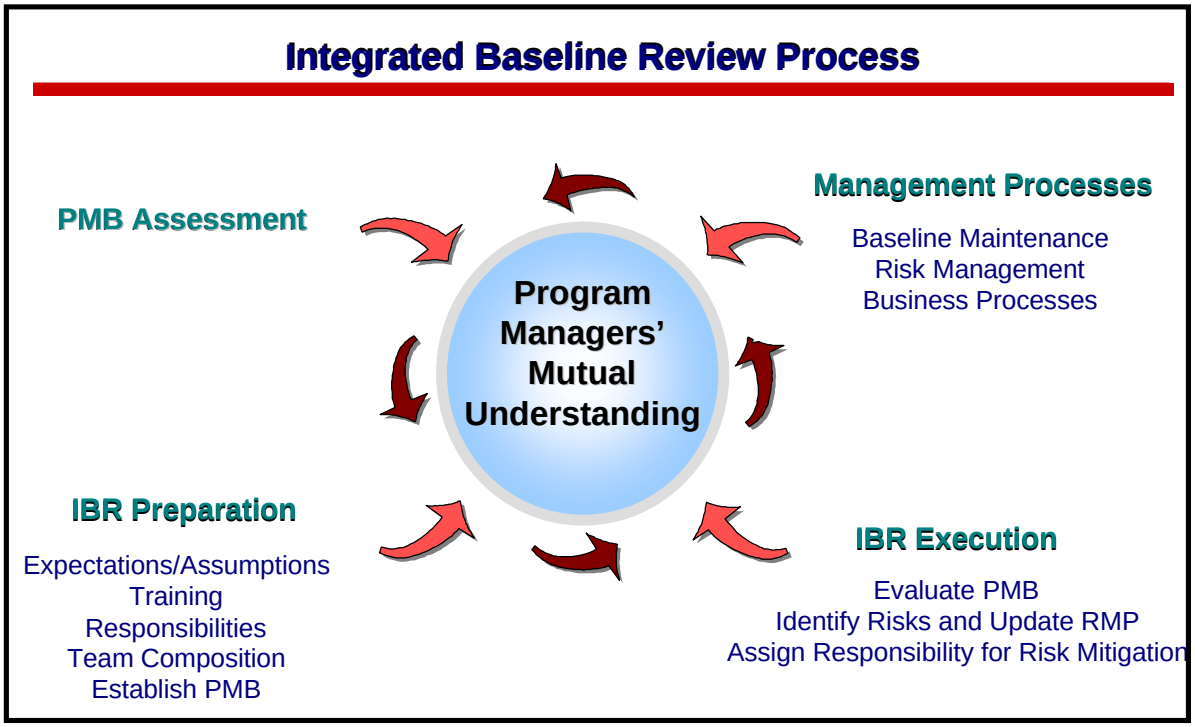


Figure 1

The IBR Process depicted in Figure 1 provides a continuous opportunity for all engaged management and staff personnel to develop and maintain a mutual understanding of the project objectives, the PMB, and the project risks.

PMs should establish a mutual understanding of the PMB and associated project risks early in the life of the project, and maintain this understanding throughout the life of the project. Initially, the IBR Process enables this understanding through the preparation for and execution of an IBR. Management processes provide for the steady-state mutual understanding of the PMB and project risks. As the project matures, PMB assessments may determine the need for a subsequent IBR.

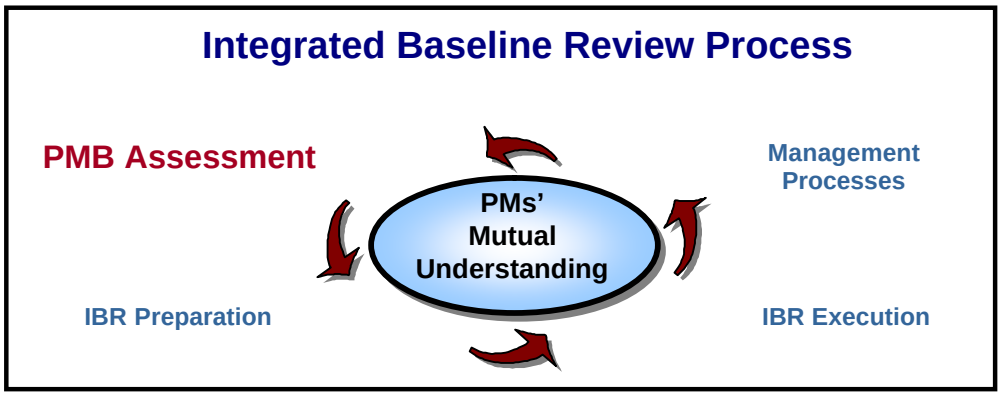
Managers can use the IBR Process to understand a PMB that results from either formal contracts or other agreements to achieve an end product. Parties to the agreements may include the Government, industry, or academia. Relationships may span any combination of the parties, such as Government and industry, Government and Government, industry and academia, or Government, industry and academia; and may include subcontractor, as well as prime contractor entities.

The IBR Guide

This guide identifies the purpose of the IBR Process and conveys the need for a continuous IBR process environment. It integrates the IBR with risk management. Identifying and mitigating risks, including those associated with the PMB and management processes, is essential to successful project completion.

This guide is not a how-to plan or a step-by-step tool kit for executing an IBR. The IBR is only one element in a series of management activities that comprise the IBR Process. This guide discusses the *framework* within which the project or program managers employ the IBR. In so doing, this Guide will improve the overall understanding of the total IBR Process, and enhance its contribution to program success.

PMB Assessment



For many years, the Government and Industry organizations that manage acquisition programs have recognized the need to understand the PMB. The PMB is a total, time-phased budget plan against which program performance is measured. Budgets assigned to the scheduled control accounts and to higher level Contract Work Breakdown Structure elements, applicable indirect budgets, and undistributed budgets form the PMB budget plan. The PMB is one of a manager's principle tools for measuring project performance.

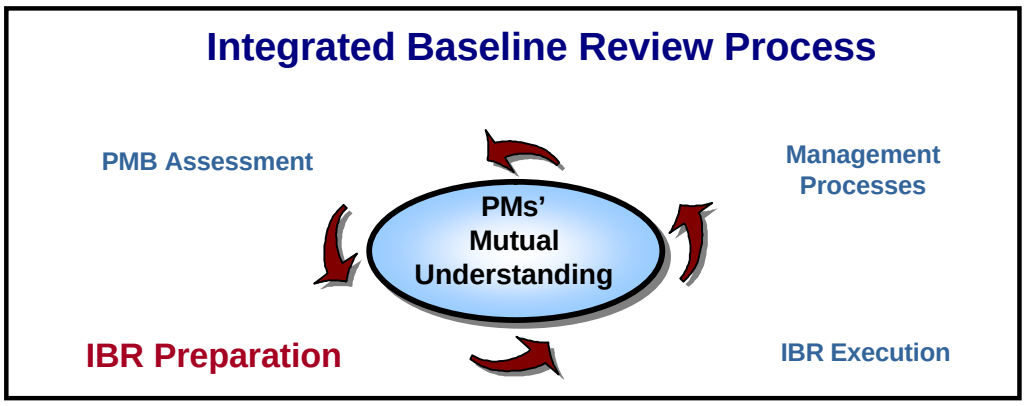
A PMB assessment examines the PMs' mutual understanding of the PMB and risks. This assessment will result in either the execution of an IBR or the PMs' continued utilization of the Management Processes. In some cases, however, an IBR may be required by policy or contract.

The PMB is a primary tool for measuring project performance and identifying risk. The PMB should reflect the entire scope of work documented at the appropriate level of detail. Some factors to consider when determining the appropriate level of detail for the PMB are key events or major milestones, the duration of detail planning, and the degree of planning for the remaining work. Management processes provide on-going assessment of the PMB.

The objective of this activity is to determine whether the need exists to execute an IBR or to allow management processes to continue to provide the requisite mutual understanding of the PMB and inherent project risks.

Throughout the life cycle of the project, there will be “fact-of-life” changes to the PMB—a reflection of the dynamics of program management. In some instances, an external factor, beyond the PMs’ control, may induce a change; at other times, nominal management activities or events may drive a change. Examples of such program dynamics include contract award, authorization to proceed, contract modification, funding changes, changes to project scope and/or schedule, the assignment of a new PM, revision of the acquisition plan or strategy, and an executive decision. Such changes would require the preparation of a revised PMB and subsequent PMB assessment, but may not necessarily require an IBR.

IBR Preparation



General Guidance

Preparation for the IBR should begin as soon as practical.

Preparation is the foundation for a successful IBR. PMs need to ensure that the team is adequately prepared to focus the IBR on those risks that may impact the PMB. Preparation for the IBR should begin as soon as practical after determining the need for IBR. When required by policy, contract, or an obvious degree of project complexity, preparation for the IBR should be concurrent with development of the PMB.

The PMs should agree on the approach for conducting the IBR to achieve a mutual understanding of the risks inherent in the PMB and management processes, and to formulate a plan to handle these risks. A close relationship between all of the PMs promotes the cooperative environment necessary to effectively manage these program risks. All managers are stakeholders in the success of the project.

The time and effort involved in the IBR depend on the project. Principal factors that influence time and effort include project management and risk planning, the authorization/negotiation process, the number, type, and severity of the risks identified during preparation for and execution of the IBR, size and complexity of the project, and the number and experience level of the IBR team members.

Expectations and Assumptions

Before executing the IBR, ensure the PMB reflects the entire scope of work, documented at the appropriate level of detail.

Upon determining the need for an IBR, the cognizant PMs should develop a plan for conducting the review. They should first define the objectives for the review. The plan should then be consistent with expectations and program dynamics. The PMs should be familiar with the scope of work (e.g., the project statement of work or statement of objectives) before planning the IBR. And they should have a clear understanding of the management processes supporting the project, including the management of subcontractors.

Preparation includes planning that identifies key responsibilities, required technical expertise, training, review dates, review scope, risk evaluation criteria, documentation needs, disposition of findings, and procedures for risk identification, documentation, and incorporation into project risk management planning.

Risk Areas

Risk identification should be the focus of IBR preparation. PMs identify risk during PMB assessment and project planning, and through continuous monitoring of management processes.

Risks can generally be categorized into the following five areas: technical, schedule, cost, resource, and management processes. Document each risk area using evaluation criteria which include schedule and cost rough-order-of-magnitude impacts. The following are brief discussions of each of the types of risk.

Technical risk. The ability of the project's technical plan to achieve the objectives of the scope of work. Technical risk includes the effects of available technology, software development capability, design maturity, etc.

Schedule risk. The adequacy of the time allocated for performing the defined tasks to successfully achieve the project schedule objectives. Schedule risk includes the effects on the schedule of the interdependency of scheduled activities to achieve project milestones and support the PMs' ability to identify and maintain the critical path.

Cost risk. The ability of the PMB to successfully execute the project and attain cost objectives, recognizing the relationship between budget, resources, funding, schedule, and scope of work. The quality of the estimates affects the cost risk, which includes the assumptions used for both estimates and resource allocation on the budgets for work items.

Resource risk. The availability of personnel, facilities, and equipment, when required, to perform the defined tasks needed to execute the program successfully. Resource risk includes the effect of external factors such as loss of availability to competing programs or unexpected downtime that could preclude or otherwise limit the availability of the resources needed to complete planned work.

Management processes risk. The degree to which the management processes provide effective and integrated technical/schedule/cost planning and baseline change control. Management processes risk includes the ability to establish and maintain valid, accurate, and timely performance data, including data from subcontractors, for early visibility into risks.

Team Composition

Participants should be identified based on their programmatic or technical expertise, as required for the review. Disciplines include program management, business management, subcontract management, and technical management (e.g., system engineering, software engineering, manufacturing, integration and test engineering, and integrated logistics support). When appropriate, the team should include subcontractor personnel. The resulting size and composition of the team should reflect the PMs' objectives, expectations, and risk assumptions.

Responsibilities

PMs are jointly responsible for the IBR Process and completion of the following tasks:

- Plan and perform the IBR;
- Provide an adequate number of qualified personnel to serve as IBR team members;
- Specify evaluation criteria for risk areas;
- Document risk issues identified during an IBR; and
- Monitor progress on required actions until issues are resolved.

Training

Training is essential to ensure that the IBR team can identify and adequately assess the project risk. The PMs should conduct joint training in which all members of the IBR team participate. The training should provide enough information so that the team can mutually understand the cost, schedule, technical, and management processes used on the project.

The essential elements of training include the following:

PMs' Expectations—

- IBR objectives
- IBR approach and expectations
- Risk identification and documentation

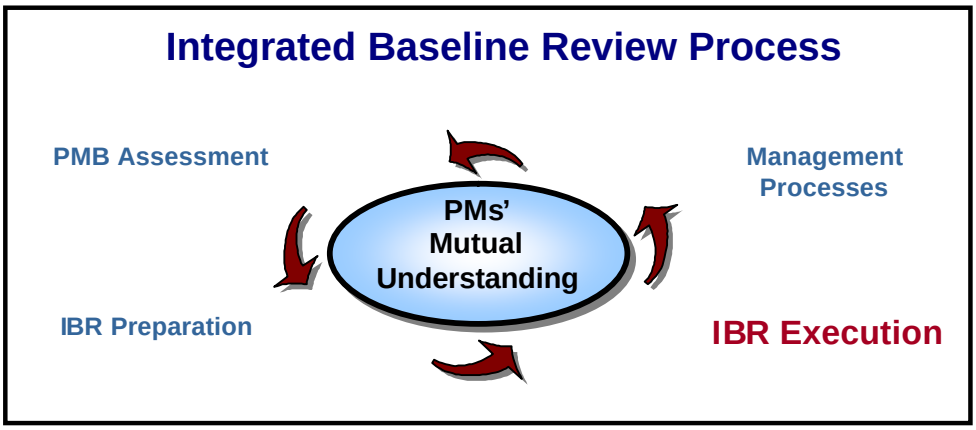
Management Processes—

- Baseline maintenance
- Risk management
- Business processes (including EVM)

Project Management Aspects—

- Statement of work/statement of objectives
- Work breakdown structure dictionary/matrix
- Work authorization document
- Control account plans
- Terms and acronyms
- Funding
- Budget and schedule baselines
- Subcontractor management
- Management reserve

IBR Execution



General Guidance

The intent of the IBR is to provide the PMs with a mutual understanding of the project PMB and to attain agreement on a plan of action to handle the identified risks.

The IBR provides a mutual understanding of the PMB, identifies project risks, and attains agreement on a plan of action to handle the identified risks. Early identification of problems or potential problems provides more time for resolution and/or mitigation. PMs should therefore plan to initiate the review within 6 months of contract award.

The control account manager discussions are the key events of the IBR. These discussions focus on key risk areas and management processes. The discussions should address topics identified during IBR preparation. To be effective, the discussion groups should remain small and focused.

IBR Objectives

Anything that does not support the intent of the IBR should be moved outside the review.

The objective of the IBR is to confirm compliance with the following business rules:

- The technical scope of work is fully included and consistent with authorizing documents;
- Key schedule milestones are identified;
- Supporting schedules reflect a logical flow to accomplish the technical work scope;
- Resources (budgets, facilities, personnel, skills, etc.) are adequate and available for the assigned tasks;
- Tasks are planned and can be measured objectively, relative to technical progress;
- Underlying PMB rationales are reasonable; and
- Managers have appropriately implemented required management processes.

Technical, Schedule, Cost, Resource, and Management Processes risks identified during the IBR should be reviewed; action risks should be incorporated into the project risk management planning.

Additionally, the IBR team should assess the management reserve with respect to project risk not accounted for in the PMB.

To evaluate project PMB risks, the IBR team should assess the degree to which the project attains the above objectives.

IBR Closeout

PM Responsibilities—

After completing the IBR, the PMs should assess whether they have achieved the purpose of the IBR:

- Have they gained a mutual understanding of the project PMB?
- Have they attained agreement on a plan of action to handle the identified risks?

The PMs should agree on a closure plan of action, and identify the individual(s) responsible for all identified risks. Items identified as *action risks* require PM attention, and should be immediately included in risk management planning. Items identified as *watch risks* represent concerns that may require future attention and future planning were they to become action risks.

IBR Team Responsibilities—

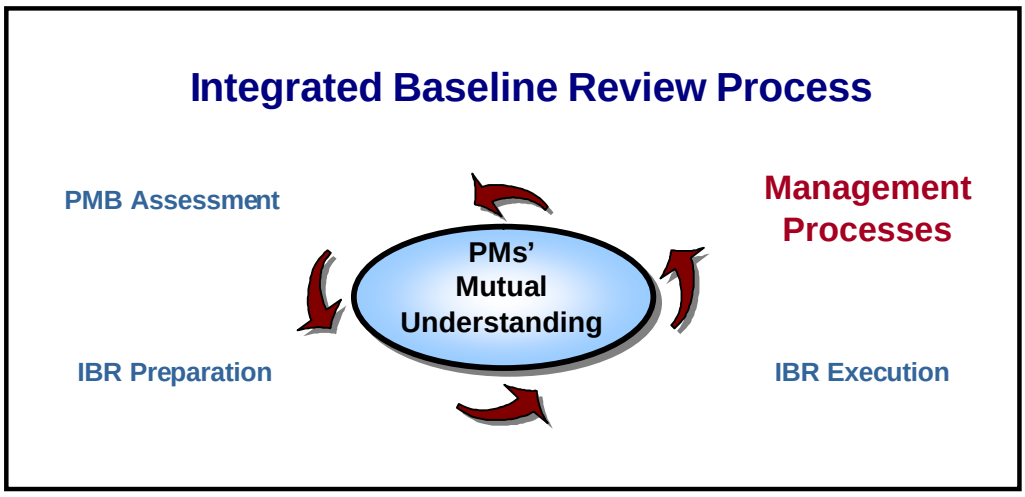
After completing the IBR, the IBR team should document the risk areas they identified, and provide the PMs with an overall project risk summary. Table 1 provides a *sample* format for summarizing the areas of risk related to the project work breakdown structure.

WBS	Technical Risks	Schedule Risks	Cost Risks	Resource Risks	Management Processes Risks
1A					
1B					
2A					
2B					
2C					
3					

Table 1. Project Risk Summary (Sample Format)

In preparing the table, the team would assign a rating to each risk area: high, medium, or low; indicated by either words or *stoplight* colors: red, yellow, or green. The team should base the ratings on the specific evaluation criteria established by the PMs during IBR Preparation.

Management Processes



Management processes provide the PMs with a continuous source of project information that enables mutual understanding and the reduction or elimination of the need for future IBRs.

General Guidance

Once the IBR is completed, emphasis shifts to the management processes. Management processes can indicate the correlation of actual performance with the PMB, and enable a continuous, mutual understanding of project risks. Failure to adequately achieve PMB estimates indicates existing or impending problems. Deviations from the PMB will point out the areas of risk requiring management attention.

As we noted earlier, program dynamics can affect project risks. Appropriate and insightful management processes can highlight changes in risk due to external factors or management events and activities, which, in general, do not necessitate an IBR.

Management Processes

Management processes necessary to support the IBR Process include the following:

Baseline Maintenance Process—

This process maintains the PMB as a current depiction of the plan for accomplishing the remaining work. This process should accommodate changes to the PMB caused by the program dynamics discussed earlier.

Risk Management Process—

The risk management process documents and classifies risks associated with the PMB. The PMs should document action risks from the IBR in risk management planning. Each action risk addressed in risk management planning should be classified as to their probability of occurrence, consequences, handling, and identification of the individuals responsible for the actions for mitigation.

Business Processes—

Other business processes include scheduling, estimate to complete, earned value methodology, and managerial analysis. Each of these processes supports the management of the project. Inappropriate or inadequate use of these processes may not only fail to identify project risks, but may actually add risk to the project.

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The Program Managers' Guide to the Integrated Baseline Review Process

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